

11.8 Iowa Hill Bald Eagle Study Plan

This study addresses the following terrestrial resource questions for the proposed Iowa Hill Pumped Storage Development Project (Project), as identified by the Upper American River Project (UARP) Relicensing Terrestrial Resources Technical Working Group (TWG):

- Does Slab Creek Reservoir and surrounding upland habitats currently support a bald eagle nesting territory, and if so, how will nesting birds be affected by construction and operation of the proposed Project?
- To what extent does Slab Creek Reservoir and surrounding upland habitats currently support wintering bald eagles and, if so, how will these wintering birds be affected by construction and operation of the proposed Project?
- To what extent would fluctuating water levels in Slab Creek Reservoir associated with operation of the proposed Project affect fish prey numbers and distribution.

11.8.1 Background

The bald eagle (*Haliaeetus leucocephalus*) has the following federal and state status designations: 1) threatened species (proposed for delisting) pursuant to the federal Endangered Species Act; 2) endangered species under the California Endangered Species Act; 3) Fully Protected under the California Fish and Game Code; and 4) a Management Indicator Species pursuant to the Eldorado National Forest (ENF) Land and Resource Management Plan.

Bald eagles, if present in the vicinity of the proposed Project, could be affected by: 1) construction activity in the vicinity of active nests and critical winter roosts; and 2) direct and indirect disturbance to nesting and wintering birds and their aquatic prey due to projected daily fluctuations in the level of Slab Creek Reservoir. Reservoir levels can: 1) dictate how far eagles have to travel from a nest site to suitable foraging habitat, and 2) influence prey species numbers and availability.

Upper American River Project reservoirs have increased the distribution and amount of foraging and nesting habitat for bald eagles throughout the watershed when compared to pre-project conditions. Bald eagles winter annually in the Project area and throughout the South Fork American River Watershed, and one pair has nested successfully at Union Valley Reservoir in seven of 17 years since 1986 (SMUD 2001). Weather at this mid-elevation nest site is believed to be a primary factor in past nest failures. No other nest sites are known to exist currently within the Upper American River Project area, including in the vicinity of Slab Creek Reservoir.

11.8.2 Study Objectives

The objectives of the bald eagle study are: 1) determine if bald eagles nest in the vicinity of Slab Creek Reservoir and, if so, how nesting eagles would be affected by construction, operation, and maintenance of the proposed Project; 2) determine if significant winter roosts of bald eagles exist in the vicinity of Slab Creek Reservoir and, if so, how eagles using these winter roosts would be affected by construction, operation, and maintenance of the proposed Project; and 3) determine how anticipated daily reservoir fluctuations would affect the type, number, and availability of bald eagle fish prey.

11.8.3 Study Area and Sampling Sites

The bald eagle study area will include Slab Creek Reservoir and adjacent upland habitats within 0.5-mile that could be used by nesting or wintering eagles.

11.8.4 Information Needed From Other Studies

A determination of potential Project impacts on nesting and wintering bald eagles will require information from a variety of studies including the results of fisheries studies conducted at Slab Creek Reservoir during 2002-2003 for the UARP, the Iowa Hill Entrainment Study, mid-winter bald eagle counts coordinated by the California Department of Fish and Game.

11.8.5 Study Methods and Schedule

Winter Roost Surveys: Bald eagle experts are currently drafting protocol for conducting winter roost surveys at the request of the Cathy Brown, USFWS (personal communication, R. Jackman, U.C. Santa Cruz, Predatory Bird Research Group, February 17, 2004). These draft protocol recommend that winter roost surveys consist of three visits with one visit in December, January, and February, and with each visit at least two weeks apart. As per these draft protocols, qualified biologists will search for wintering bald eagles and roosts once each month from December 2004 through February 2005. Each survey will be conducted from a boat (e.g., canoe, raft, small motorboat) and consist of a slow pass through the entire length of the reservoir from Slab Creek Dam upstream as far as is navigable by boat and then return to the starting point (estimated at 9-10 miles round-trip). Surveys will be initiated prior to 10:00 am when bald eagle activity levels are generally highest. Each survey is expected to require 3-4 hours to complete. Surveys will not be conducted during severe weather conditions when safety of field crews could be compromised. Data to be recorded during each survey will include: date/time of survey; weather; perch description; number, location, and behavior of eagles observed; and response of eagles to observer approach. Eagle perch sites may be recorded using Global Positioning System (GPS) instruments depending on satellite capture, which may be difficult considering steep canyon walls bordering most of Slab Creek Reservoir.

Nest Surveys: Qualified biologists will search for breeding bald eagles using the guidelines recommended by CDFG (CDFG 1999). The CDFG recommendations call for a minimum of three surveys during the bald eagle nesting season with at least one survey performed during each of three nesting periods as follows:

1. Early Incubation (late February-early March). The purpose of this initial survey is to determine if a territory is occupied (based on presence of adults, courtship behavior, evidence of nest construction or repair, and incubation).
2. Early Nestling Period (late April-early May). This check is intended to confirm that a territory is unoccupied, or if occupied during the early incubation period, to determine whether the breeding pair is still tending the nest (incubating eggs or tending nestlings).
3. Late Nestling Period (early June-early July). The primary purpose of this check is to determine how many nestlings are approaching fledgling age.

Based on this protocol, breeding surveys will be initiated in late February 2005 and conclude in June 2005. For each survey, a California Department of Fish and Game field form for bald eagle breeding surveys will be completed. All other survey procedures will be as presented above for winter roost surveys.

11.8.6 Analysis

Information gathered during this study and proposed plans for construction, operation and maintenance of the Project will be analyzed to determine the potential for direct or indirect impacts to nesting and wintering bald eagles.

11.8.7 Study Output

Study results will be presented to the Terrestrial Resources Technical Working Group (TWG) during summer 2005. Ultimately, the results of the study will be incorporated into Exhibit E of the Licensee's application to FERC for a new license for the UARP. The output will include the issues addressed, objectives, study area, methods, analysis, results, discussion, and conclusions.

11.8.8 TWG and Plenary Group Endorsement

This study plan was approved by the Terrestrial TWG via emails and faxes from the following entities: USFS (03/19/04), USFWS (03/19/04), CDFG (03/15/04) and SMUD. There have been no comments received from any Participant that they could not "live with" the study plan.

The study plan was approved by the Plenary Group on April 7, 2004 without modification. There was no one present at the meeting who objected to the study plan going forward for implementation.

11.8.9 Literature Cited

CDFG (California Department of Fish and Game). 1999. Bald eagle breeding survey instructions and field forms. November 1999. Sacramento.

SMUD (Sacramento Municipal Utility District). 2001. Initial Information Package for Relicensing of the Upper American River Project (FERC Project No. 2101). Sacramento. July 2001.